

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau



(43) International publication date

9 June 2005 (09.06.2005)

PCT

(10) International publication number

WO 2005/052489 A2

(51) International patent classification⁷:

F28F 13/04

(21) International application number:

PCT/EP2004/012783

(22) International filing date:

11 November 2004 (11.11.2004)

(25) Language of filing:

German

(26) Language of publication:

German

(30) Data relating to the priority:

103 55 833.0 26 November 2003 (26.12.2003) DE

(71) Applicant (for all designated States except US): BEHR GMBH & CO. KG [DE/DE]; Mauserstrasse 3, 70469 Stuttgart (DE).

(72) Inventor; and

(75) Inventor/Applicant (US only): MAMBER, Oliver [DE/DE]; Thomas-Mann-Strasse 32, 70469 Stuttgart (DE).

(74) Joint Representative: BEHR GMBH & CO. KG; Intellectual Property, G-IP, Mauserstrasse 3, 70469 Stuttgart (DE).

(81) Designated states (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE,

GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated states (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for the following designation US

Published:

— Without International Search Report and to be republished upon receipt of that report

For an explanation of the two-letter codes and the other abbreviations, reference is made to the explanations ("Guidance Notes on Codes and Abbreviations") at the beginning of each regular edition of the PCT Gazette

As printed

(54) Title: HEAT EXCHANGER

(54) Bezeichnung: WÄRMETAUSCHER

(57) Abstract: The invention relates to a heat exchanger, particularly an evaporator for air conditioners in motor vehicles, having a number of heat transfer surfaces made of metal, in particular, aluminum or aluminum compounds. The aim of the invention is to provide this heat exchanger with a surface coating that is improved compared to the prior art. To this end, a number of layers are applied to its heat transfer surfaces, and nanoparticles are used for the coating.

(57) Zusammenfassung: Ein Wärmetauscher, insbesondere ein Verdampfer für Klimaanlagen in Kraftfahrzeugen, mit einer Anzahl von Wärmeübertragungsüberflächen aus Metall, insbesondere Aluminium oder Aluminiumverbindungen, soll mit einer Oberflächenbeschichtung versehen werden, die gegenüber dem Stand der Technik verbessert ist. Dazu sind auf seine Wärmeübertragungsüberflächen mehrere Schichten aufgebracht, wobei zur Beschichtung Nanopartikel eingesetzt sind.